

WHAT IS CLAIMED IS:

1. A wafer stage for use in a wafer processing apparatus comprising a liquid cooling jacket with a built-in coolant liquid circulation path and a ceramic plate as attached onto said liquid cooling jacket and having therein a heater and an electrode for an electrostatic chuck, said wafer stage being enabling performance of wafer processing while letting a wafer be mounted on the ceramic plate, wherein said liquid cooling jacket enables attachment of said ceramic plate through a gap for circulation of a coolant gas as formed over said liquid cooling jacket, and a heat resistant seal material containing therein an elastic body for sealing said coolant gas between said liquid cooling jacket and said ceramic plate.

2. The wafer stage according to claim 1, wherein said coolant liquid circulation path is divided into a plurality of circulating paths which are independent of each other due to a protrusion provided at said liquid cooling jacket.

3. The wafer stage according to claim 1, wherein said heater as built in said ceramic plate is divided into a plurality of mutually independent heaters.

4. The wafer stage according to claim 1, wherein said liquid cooling jacket has a surface opposing said ceramic plate which is one of mirror surface machined and plating treated.

5. The wafer stage according to claim 1, wherein a radiant heat insulation material having an inner surface thereof which is one of mirror

surface machined and plating treated is disposed at an outer periphery of said ceramic plate.

6. The wafer stage according to claim 1, wherein said heat resistant seal material is a seal material made of any one of a metal and a heat resistive polymer material.